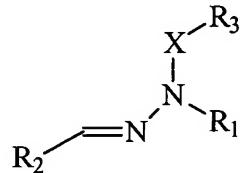


CLAIMS

What is claimed is:

1. An organophotoreceptor comprising an electrically conductive substrate and a
5 photoconductive element on the electrically conductive substrate, the photoconductive
element comprising:

(a) a charge transport compound having the formula

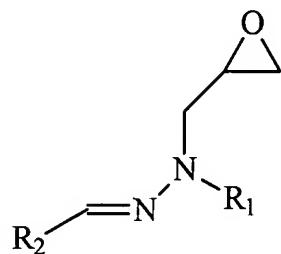


where X is a divalent hydrocarbon group of 1 to 30 carbon atoms, or a divalent
10 hydrocarbon group of 1 to 30 carbon atoms where there is at least one substitution of a
carbon atom by a heteroatom provided that no two heteroatoms may be adjacent within
the backbone of an aliphatic divalent hydrocarbon group, R₁ is an aromatic group or a
heterocyclic group, R₂ is a (N,N-disubstituted)arylamine group, and R₃ is an epoxy
group; and

15 (b) a charge generating compound.

2. An organophotoreceptor according to claim 1 wherein the photoconductive
element further comprises an electron transport compound.

20 3. An organophotoreceptor according to claim 1 wherein the charge transport
compound has the formula



4. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a polymer binder.

5. An organophotoreceptor according to claim 4 wherein the polymer binder comprises a reactive functionality selected from the group consisting of hydroxyl group, carboxyl group, amino group, thiol group and reaction products of these functional groups with an epoxy functional group or an acid anhydride.

10 6. An organophotoreceptor according to claim 5 wherein the at least a photoconductive layer further comprises a cyclic acid anhydride or the reaction product of a cyclic acid anhydride and the epoxy functional group and the polymer reactive functionality.

15 7. An organophotoreceptor according to claim 1 wherein the epoxy group is an epoxy linkage to a functional group of a polymer binder.

8. An organophotoreceptor according to claim 7 wherein a crosslinking agent is bonded between the epoxy linkage and the polymer binder.

20 9. An organophotoreceptor according to claim 1 wherein the (N,N-disubstituted)arylamine group is a p-(N,N-disubstituted)arylamine group.

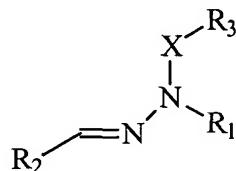
25 10. An organophotoreceptor according to claim 1 wherein the (N,N-disubstituted)arylamine group comprises a triphenyl amine group, a carbazole group or a julolidine group.

11. An organophotoreceptor according to claim 1 wherein the R₁ group is a phenyl group.

30 12. An electrophotographic imaging apparatus comprising:
(a) a light imaging component; and

(b) an organophotoreceptor oriented to receive light from the light imaging component, the organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

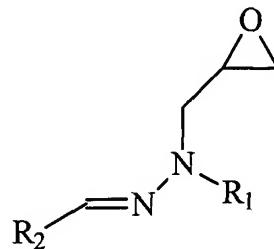
5 (i) a charge transport compound having the formula



where X is a divalent hydrocarbon group of 1 to 30 carbon atoms, or a divalent hydrocarbon group of 1 to 30 carbon atoms where there is at least one substitution of a carbon atom by a heteroatom provided that no two heteroatoms may be adjacent within the backbone of an aliphatic divalent hydrocarbon group, 10 R₁ is an aryl group or a heterocyclic group, R₂ is a (N,N-disubstituted)arylamine group, and R₃ is an epoxy group; and

(ii) a charge generating compound.

15 13. An electrophotographic imaging apparatus according to claim 12 wherein the charge transport compound has the formula



14. An electrophotographic imaging apparatus according to claim 12 wherein the 20 photoconductive element further comprises an electron transport compound.

15. An electrophotographic imaging apparatus according to claim 12 wherein the photoconductive element further comprises a binder.

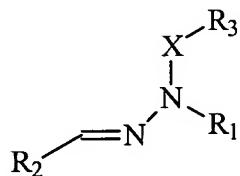
16. An electrophotographic imaging apparatus according to claim 12 wherein the binder comprises a reactive functionality selected from the group consisting of a hydroxyl group, a carboxyl group, an amino group, a thiol group and the reaction products of these 5 functional groups with an epoxy group or a crosslinking agent bonded to an epoxy group.

17. An electrophotographic imaging apparatus according to claim 16 wherein the photoconductive element further comprises a crosslinking agent or the reaction product of the crosslinking agent with the epoxy functional group and the polymer reactive 10 functionality.

18. An electrophotographic imaging apparatus according to claim 12 wherein the (N,N-disubstituted)arylamine group comprises a triphenyl amine group, a carbazole group or a julolidine group.

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19. An electrophotographic imaging process comprising:
(a) applying an electrical charge to a surface of an organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

20 (i) a charge transport compound having the formula



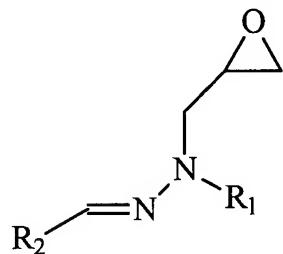
25 where X is a divalent hydrocarbon group of 1 to 30 carbon atoms, or a divalent hydrocarbon group of 1 to 30 carbon atoms where there is at least one substitution of a carbon atom by a heteroatom provided that no two heteroatoms may be adjacent within the backbone of an aliphatic divalent hydrocarbon radical, R₁ is an aryl group or a heterocyclic group, R₂ is a (N,N-disubstituted)arylamine group, and R₃ is an epoxy group; and

(ii) a charge generating compound;

(b) imagewise exposing the surface of the organophotoreceptor to radiation to dissipate charge in selected areas and thereby form a pattern of charged and uncharged areas on the surface;

5 (c) contacting the surface with a toner to create a toned image; and
(d) transferring the toned image to a substrate.

20. An electrophotographic imaging process according to claim 19 wherein the charge transport compound has the formula



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21. An electrophotographic imaging process according to claim 19 wherein the photoconductive element further comprises an electron transport compound.

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22. An electrophotographic imaging process according to claim 19 wherein the photoconductive element further comprises a polymer binder.

20

23. An electrophotographic imaging process according to claim 22 wherein the binder comprises at least a reactive functionality selected from the group consisting of hydroxyl group, carboxyl group, amino group, thiol group and the reaction products of these functional groups with an epoxy functional group or an acid anhydride.

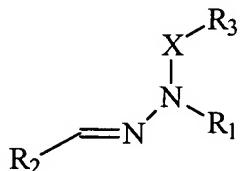
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24. An electrophotographic imaging process according to claim 23 wherein the photoconductive element further comprises a crosslinking agent or the reaction product of the crosslinking agent with the epoxy functional group and the polymer reactive functionality.

25. An electrophotographic imaging process according to claim 19 wherein the toner comprises a liquid toner comprising a dispersion of colorant particles in an organic liquid

5 26. An electrophotographic imaging process according to claim 19 wherein the (N,N-disubstituted)arylamine group comprises a triphenyl amine group, a carbazole group or a julolidine group.

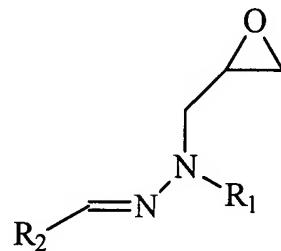
27. A charge transport compound having the formula



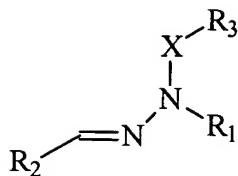
where X is a divalent hydrocarbon group of 1 to 30 carbon atoms, or a divalent hydrocarbon group of 1 to 30 carbon atoms where there is at least one substitution of a carbon atom by a heteroatom provided that no two heteroatoms may be adjacent within the backbone of an aliphatic divalent hydrocarbon group, R₁ is an aryl group or a heterocyclic group, R₂ is a (N,N-disubstituted)arylamine group, and R₃ is an epoxy group.

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28. A charge transport compound according to claim 27 having the formula



29. A polymeric charge transport compound prepared by the reaction of an epoxy group in a compound having the formula



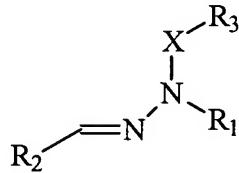
where X is a divalent hydrocarbon group of 1 to 30 carbon atoms, or a divalent hydrocarbon group of 1 to 30 carbon atoms where there is at least one substitution of a carbon atom by a heteroatom provided that no two heteroatoms may be adjacent within the backbone of an aliphatic divalent hydrocarbon group, R₁ is an aryl group or a heterocyclic group, R₂ is a (N,N-disubstituted)arylamine group, and R₃ is an epoxy group bonded with a reactive functionality in a polymeric binder.

30. A polymeric charge transport compound according to claim 29 wherein the reactive functionality of the binder is selected from the group consisting of hydroxyl group, carboxyl group, amino group, and thiol group.

31. A polymeric charge transport compound according to claim 29 wherein a crosslinking agent is bonded between the epoxy functional group and the reactive functionality of the binder.

32. An organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

20 (a) a polymeric charge transport compound prepared by the reaction of an epoxy group in a compound having the formula



where X is a divalent hydrocarbon group of 1 to 30 carbon atoms, or a divalent hydrocarbon group of 1 to 30 carbon atoms where there is at least one substitution of a carbon atom by a heteroatom provided that no two heteroatoms may be adjacent within

the backbone of an aliphatic divalent hydrocarbon group, R₁ is an aryl group or a heterocyclic group, R₂ is a (N,N-disubstituted)arylamine group, and R₃ is an epoxy group bonded with a reactive functionality in a polymeric binder; and

(b) a charge generating compound.

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33. An organophotoreceptor according to claim 32 wherein the photoconductive element further comprises an electron transport compound.

10 34. An organophotoreceptor according to claim 32 wherein the reactive functionality of the binder is selected from the group consisting of hydroxyl group, carboxyl group, amino group, and thiol group.